

SWBAT: define and calculate frequency and period

Jan 4-7:20 AM

Welcome!!!

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SECA Physics
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* Pick up:

- blue concept sheet
- whiteboard, eraser, crayon
- slip of paper (for later)



Opening Question:

How long would you guess it takes this pendulum to swing back and forth?

USUALLY
1 Second

Centering

Sep 7-7:04 AM

Concept Sheet

~ 7 rows when we're done...

We'll fill in one term (row) today.

Concept	Meaning	Sym- bol	Units	Picture
FREQUENCY	HOW MANY PER UNIT OF TIME $\text{FREQ} = \frac{\#}{\text{TIME}}$	f $f = \frac{1}{T}$	hertz $\text{Hz} = \frac{1}{\text{sec}}$	
PERIOD	HOW MUCH TIME FOR ONE. $\text{PERIOD} = \frac{\text{TIME}}{\#}$	T $T = \frac{1}{f}$	Seconds sec.	

Feb 18-6:50 AM

How long for each event

How much time for one.

<http://en.wikipedia.org/wiki/Hertz>

Period (measured in seconds)

TOP, MIDDLE, BOTTOM

1) Which one blinks most often?

BOTTOM

2) What is its frequency?

 $f = 2.0 \text{ Hz}$

3) Least often?

TOP

4) Its frequency?

 $f = 0.5 \text{ Hz}$

5) Which has the longest time between blinks?

TOP

6) What is its period?

 $T = 2.0 \text{ s}$

7) What has the least time between blinks?

BOTTOM

8) Its period? 0.5 sec

● $f = 0.5 \text{ Hz}$
 $T = 2.0 \text{ s}$

● $f = 1.0 \text{ Hz}$
 $T = 1.0 \text{ s}$

● $f = 2.0 \text{ Hz}$
 $T = 0.5 \text{ s}$

$\frac{1}{2} = 0.5$
 $\frac{1}{0.5} = 2$

Apr 12-7:13 AM

Outrageous Acts of Science

A show about viral videos and the science that makes them possible...



"Popping Puppy" Dukes of Havoc #17

1. Just watch
2. Read the questions
3. Watch again
4. Discuss
5. Watch a last time to catch anything you might have missed

Oct 4-7:27 AM

Write some questions for the class:

$$f = \frac{\#}{\text{TIME}}$$

$$T = \frac{\text{TIME}}{\#}$$

* MY HEART BEATS 120 times in 1 MINUTE
 NOUN VERB # HOW MANY? AMOUNT OF TIME

→ - How many hertz is that? $f = \frac{120}{60s} = 2\text{ Hz}$
 - What is the period?

* It takes for to
 AMOUNT OF TIME NOUN VERB

- What is the frequency?
- What is the period?

* [Create your own kind of question about finding frequency or period.]

Apr 13-7:33 AM

Groups of 3:

$\text{FREQUENCY} = \frac{\# \text{ TIMES}}{\# \text{ SECS}}$ (Hz)

$\text{PERIOD} = \frac{\# \text{ SECS}}{\# \text{ TIMES}}$

- * Find out everyone's names
- * What would you order to drink at a restaurant for lunch?
- * RATE the questions you get as EASY / MEDIUM / HARD
- * Pick one question to work on together and understand so that any member of the group could show the class how to do it.

$\frac{2 \text{ TIMES}}{24 \text{ HRS}} \sim 1 \text{ DAY}$

$$T = ? = \frac{24 \text{ HRS}}{2 \text{ TIMES}} = 12 \text{ HRS} \times 60 \frac{\text{MIN}}{\text{HR}} \times 60 \frac{\text{SECS}}{\text{MIN}}$$

Apr 13-7:47 AM

Slinky:

How do you make high frequency waves?

How do you make waves with a high period?

Apr 12-7:13 AM

Daily 3 Questions

CP: Write your own word problem; then find frequency AND period.

- * Every day except test/project days
- * 3 Questions on the topics of the day
- * Main source of daily points
- * I am happy to give credit when I have no concerns about someone giving or getting help with the answers.

You can't get your points if you don't have your NAME!!!

Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM

1) If my heart beats 120 times each minute (and a minute is 60 seconds), what is the **frequency** of my heartbeat in hertz?

$$f = \frac{120}{60s.} = 2 \text{ Hz}$$

2) FREQUENCY means how many per unit time.

3) What are the STANDARD UNITS for **period**?

Seconds

Apr 12-7:15 AM